# 2. STEWARDSHIP: TOWARD A FEDERAL BALANCE SHEET

#### Introduction

A full evaluation of the Government's financial condition must consider a broader range of data than would usually be shown on a business balance sheet. A balanced assessment of the Government's financial condition requires several complementary perspectives. This chapter presents a framework for such analysis. No single table in this chapter is "the balance sheet" of the Federal Government. Rather, the chapter taken as a whole provides an overview of the Government's financial resources, the current and future claims on them, and what the taxpayer gets in exchange for these resources. This is the kind of assessment for which a financial analyst would turn to a business balance sheet, but this chapter is expanded to take into account the Government's unique roles and circumstances.

Because of the differences between Government and business, and because there are serious limitations in the available data, this chapter's findings should be interpreted with caution. The conclusions are tentative and subject to revision.

The presentation consists of three parts:

- The first part reports on what the Federal Government owns and what it owes. Table 2–1 summarizes this information. The assets and liabilities in this table are a useful starting point for analysis, but they are only a partial reflection of the full range of Government resources and responsibilities. Only those items actually owned by the Government are included in the table, but its resources extend beyond the assets defined in this narrow way. Government can also rely on taxes and other measures to meet future obligations. Similarly, while the table's liabilities include all of the binding commitments resulting from prior Government action, Government's responsibilities are much broader than this.
- The second part presents possible paths for the Federal budget extending well into the next century, beginning with an extension of the 2000 Budget. Table 2–2 summarizes this information. This part offers the clearest indication of the longrun financial demands that the Government faces and the resources that will be available to meet them. Some future claims on the Government deserve special emphasis because of their importance to individuals' retirement plans. Table 2–3 summarizes the condition of the Social Security

- and Medicare trust funds and how that condition has changed since 1997.
- The third part of the presentation features information on economic and social conditions which the Government affects by its actions. Table 2–4 presents summary data for national wealth while highlighting the Federal investments that have contributed to that wealth. Table 2–5 presents a small sample of economic and social indicators.

#### Relationship with FASAB Objectives

The framework presented here meets the stewardship objective <sup>1</sup> for Federal financial reporting recommended by the Federal Accounting Standards Advisory Board and adopted for use by the Federal Government in September 1993.

Federal financial reporting should assist report users in assessing the impact on the country of the Government's operations and investments for the period and how, as a result, the Government's and the Nation's financial conditions have changed and may change in the future. Federal financial reporting should provide information that helps the reader to determine:

- 3a. Whether the Government's financial position improved or deteriorated over the period.
- 3b. Whether future budgetary resources will likely be sufficient to sustain public services and to meet obligations as they come due.
- 3c. Whether Government operations have contributed to the Nation's current and future well-being.

The presentation here explores an experimental approach for meeting this objective at the Government-wide level.

# What Can Be Learned from a Balance Sheet Approach

The budget is an essential tool for allocating resources within the Federal Government and between the public and private sectors; but the standard budget presentation, with its focus on annual outlays, receipts, and the surplus/deficit, does not provide all the information needed for a full analysis of the Government's financial and investment decisions. A business may ultimately be judged by the bottom line in its balance sheet, but for the National Government, the ultimate test is how its actions affect the country.

<sup>&</sup>lt;sup>1</sup> Objectives of Federal Financial Reporting, Statement of Federal Financial Accounting Concepts Number 1, September 2, 1993. The other objectives relate to budgetary integrity, operating performance, and systems and controls.

# QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S "BALANCE SHEET"

# 1. According to Table 2-1, the Government's liabilities exceed its assets. No business could operate in such a fashion. Why does the Government not manage its finances more like a business?

Because the Federal Government is not a business. It has fundamentally different objectives, and so must operate in different ways. The primary goal of every business is to earn a profit. But in our free market system, the Federal Government leaves almost all activities at which a profit could be earned to the private sector. In fact, the vast bulk of the Federal Government's operations are such that it would be difficult or impossible to charge prices for them—let alone prices that would cover expenses. The Government undertakes these activities not to improve its own balance sheet, but to benefit the Nation—to foster not only monetary but also nonmonetary values. No business would—or should—sacrifice its own balance sheet to bolster that of the rest of the country.

To illustrate, one of the Federal Government's most valuable assets is its holdings of gold. The price of gold generally fluctuates counter to the state of the economy—if inflation is rapid and out of control, the price of gold rises; but when inflation slows and steadies, the price of gold falls. One source of the deterioration of the Federal Government's balance sheet since the early 1980s has been a decline in the relative price of gold, which has reduced the real value of the Government's gold holdings. But that price decline—and the resulting deterioration of the Government's balance sheet—began as a direct consequence of Federal policies to reduce inflation, for the benefit of the people and businesses of the United States. No business would undertake such a policy of worsening its own balance sheet.

Similarly, the Federal Government invests in education and research. The Government earns no direct return from these investments; but the Nation and its people are made richer. A business's motives for investment are quite different; business invests to earn a profit for itself, not others. Because the Federal Government's objectives are different, its balance sheet behaves differently, and should be interpreted differently.

# 2. But Table 2-1 seems to imply that the Government is insolvent. Is it?

No. Just as the Federal Government's responsibilities are of a different nature than those of a private business, so are its resources. Government solvency must be evaluated in different terms.

What the table shows is that those Federal obligations that are most comparable to the liabilities of a business corporation exceed the estimated value of the assets the Federal Government actually owns. However, the Government has access to other resources through its sovereign powers, which include taxation. These powers give the Government the ability to meet present obligations and those that are anticipated from future operations.

The financial markets clearly recognize this reality. The Federal Government's implicit credit rating is the best in the United States; lenders are willing to lend it money at interest rates substantially below those charged to private borrowers. This would not be true if the Government were really insolvent or likely to become so. In countries where governments totter on the brink of insolvency, lenders are either unwilling to lend them money, or do so only in return for a substantial interest premium.

However, the Federal Government's balance sheet was clearly worsened by the budget policies of the 1980s. Under President Clinton, the deterioration in the balance sheet has been halted, and as the budget has moved from deficit to surplus, the excess of Government liabilities over assets has leveled off and begun to shrink relative to the size of the economy.

# QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S "BALANCE SHEET"—Continued

# 3. The Government does not comply with the accounting requirements imposed on private businesses. Why does the government not keep a proper set of books?

Because the Government is not a business, and its primary goal is not to earn profits or to enhance its own wealth. Accounting standards designed to illuminate how much a business earns and how much equity it has would not provide useful information if applied to the Government, and might even be misleading. In recent years, the Federal Accounting Standards Advisory Board has developed, and the Federal Government has adopted, a conceptual accounting framework that reflects the Government's functions and answers the questions for which Government should be accountable. This framework addresses budgetary integrity, operating performance, stewardship, and systems and controls. The Board has also developed, and the Government has adopted, a full set of accounting standards. Federal agencies are issuing audited financial reports that follow these standards; an audited Government-wide consolidated financial report was issued last year.

This chapter addresses the "stewardship objective"—assessing the interrelated condition of the Federal Government and of the Nation. The data in this chapter are intended to illuminate the trade-offs and connections between making the Federal Government "better off" and making the Nation "better off." There is no "bottom line" for the Government comparable to the net worth of a business corporation. Some analysts may find the absence of a bottom line to be frustrating. But pretending that there is such a number—when there clearly is not—does not advance the understanding of Government finances.

#### 4. Why is Social Security not shown as a liability in Table 2-1?

Formally, construing Social Security as a liability would entail several conceptual contradictions. There are other Federal programs that are very similar to Social Security in the promises they make—Medicare, Medicaid, Veterans pensions, and Food Stamps, to name a few. Should the future benefits expected from these programs also be treated as liabilities? It would be difficult to justify a different accounting treatment for them if Social Security were classified as a liability of the Government. There is no bright dividing line separating Social Security from other income-maintenance programs.

Furthermore, if future Social Security benefits were to be treated as liabilities, logic would suggest that future Social Security payroll tax receipts that are earmarked to finance those benefits ought to be considered assets. However, other tax receipts are not counted as assets; and drawing a line between Social Security taxes and other taxes would be questionable.

#### QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S "BALANCE SHEET"—Continued

#### 5. It is all very well to run a budget surplus now, but can this be sustained? When the babyboom generation retires beginning in 2008, will the deficit not return larger and meaner than ever before?

The aging of the U.S. population, which will become dramatically evident when the baby-boomers retire, poses serious long-term problems for the Federal budget and its major entitlement programs. However, the surplus in the budget means the country is better prepared to address these problems. If current projections prove correct and the surplus is preserved for some time to come, then there will be a significant decline in Federal net interest payments because of the decline in Federal debt resulting from the surpluses. This is a key step towards keeping the budget in balance when the baby-boomers retire.

The second part of this chapter and the charts that accompany it show how the budget is likely to fare under various possible alternative scenarios.

# 6. Would it be sensible for the Government to borrow to finance needed capital—permitting a deficit in the budget—so long as it was no larger than the amount spent on Federal investments?

First of all, the Government consumes capital each year in the process of providing goods and services to the public. The rationale for using Federal borrowing to finance investment really only applies to net investment, after depreciation is subtracted, because only net investment augments the Government's assets and offsets the increase in liabilities that result from borrowing. If the Government financed all new capital by borrowing, it should pay off the debt as the capital acquired in this way loses value. As discussed in Chapter 6 of Analytical Perspectives, net investment in physical capital owned by the Federal Government is estimated to have been negative in 1998 and to remain negative in 1999 and 2000, so no deficit spending would actually be justified by this borrowing-for-investment criterion.

The Federal Government also funds substantial amounts of physical capital that it does not own, such as highways and research facilities, and it funds investment in intangible "capital" such as education and training and the conduct of research and development. A private business would never borrow to spend on assets that would be owned by someone else. However, such spending is a principal function of Government. Chapter 6 shows that when these investments are also included, net investment is estimated to be slightly positive in 1999 and 2000. It is not clear whether this type of capital investment would satisfy the borrowing-for-investment criterion. Certainly, these investments do not create Federally owned assets, even though they are part of national wealth.

There is another hitch in the logic of borrowing to invest. Businesses expect investments to earn a profit from which to repay the financing costs. In contrast, the Federal Government does not generally expect to receive a direct payoff (in the form of higher tax receipts) from its investments, whether or not it owns them. In this sense, Government investments are no different from other Government expenditures, and the fact that they provide services over a longer period is no justification for excluding them when calculating the surplus/deficit.

Finally, the Federal Government must pursue policies that support the overall financial and economic well-being of the Nation. In this broader context, the Government may need to manage its fiscal policy to run a surplus, so as to augment private saving and investment, even if this means paying for its own investments from current revenues, instead of borrowing in the credit market and crowding out private investment. Other considerations than the size of Federal investment need to be weighed in choosing the appropriate level of the surplus or deficit.

#### QUESTIONS AND ANSWERS ABOUT THE GOVERNMENT'S "BALANCE SHEET"—Continued

# 7. Is it misleading to include the Social Security surplus when measuring the Government's budget surplus?

For many years, experts have said that the Federal budget has three purposes: to plan the Government's fiscal program; to impose financial discipline on the Government's activities; and to measure the Government's effect on the economy. It should not be surprising that, with more than one purpose, the budget is routinely presented in more than one way. For years, there have been several alternative measures of the budget, each with its appropriate use. None of these measures is always right, or always wrong; it depends upon the purpose to which the budget is put.

For the purpose of measuring the Government's effect on the economy, it would be misleading to omit any part of the budget; doing so would simply miss part of what we were trying to measure. For example, we would need to know all of the Federal Government's receipts and outlays to know whether it will have the wherewithal to meet its future obligations—such as Social Security. And for purposes of fiscal discipline, leaving out particular Government activities could be dangerous. In fact, the principle of a "unified," all-inclusive budget was established by President Johnson's Commission on Budget Concepts largely to forestall a trend toward moving favored programs off-budget—which had been done explicitly to shield those programs from scrutiny and funding discipline.

To plan the Government's program, however, alternative perspectives can sometimes be useful. In particular, the Congress has moved Social Security off-budget. The purpose was to stress the need to provide independent, sustainable funding of Social Security in the long term; and to show the extent to which the rest of budget had relied on annual Social Security surpluses to make up for its own shortfalls.

Policy under this Administration has been consistent with these goals. The non-Social Security deficit has been virtually eliminated—falling consistently from its record \$340 billion in 1992 to only \$30 billion, the lowest in more than a quarter of a century, in 1998. We anticipate that the non-Social Security budget will move solidly into surplus within the time horizon of this budget. And the President has made long-term Social Security soundness a key priority for this year.

In sum, the budget is like a toolbox that contains different tools to perform different functions. There is a right tool for each task, but no one tool is right for every task. If we choose the right tool for the job at hand, we can achieve our objectives.

# 8. What good does it do for the Federal Government to run a budget surplus, if the surplus is only used to retire Government debt? Is this just another way of pouring the money down the drain?

When the Government retires its debt, it is not pouring money down the drain. The Government contributes to the accumulation of national wealth by using a budget surplus to repay Government debt. Because of the large budget deficits of the 1980s, Federal debt measured relative to the size of the economy has risen to levels not seen since the early 1960s. Reducing this accumulated debt will have several desirable economic effects. It will help to hold down real interest rates, which is good for investment and home ownership. Lowering the debt will give the Government more flexibility should it face an unexpected need to borrow in the future. When the Government uses a budget surplus to reduce its debt, it adds to national saving. Even though the Government is simply repaying its debt, the resources represented by the surplus are available for private investment in new plant and equipment, new homes, and other durable assets.

The data needed to judge its performance go beyond a simple measure of net assets. Consider, for example, Federal investments in education or infrastructure whose returns flow mainly to the private sector and which are often owned by households, private businesses or other levels of government. From the standpoint of the Federal Government's "bottom line," these investments might appear to be unnecessary or even wasteful; but they make a real contribution to the economy and to people's lives. A framework for evaluating Federal finances needs to take Federal investments into account, even when the return they earn accrues to someone other than the Federal Government.

A good starting point to evaluate the Government's finances is to examine its assets and liabilities. An illustrative tabulation of net assets is presented below in Table 2–1, based on data from a variety of public and private sources. It has sometimes been suggested that the Federal Government's assets, if fully accounted for, would exceed its debts. Table 2–1 clearly shows that this is not correct. The Federal Government's assets are less than its debts; the deficits in the 1980s caused Government debts to increase far more than Government assets.

But that is not the end of the story. The Federal Government has resources that go beyond the assets that normally appear on a conventional balance sheet, including the Government's sovereign powers to tax, regulate commerce, and set monetary policy. However, these powers call for special treatment in financial analysis. The best way to incorporate them is to make a long-run projection of the Federal budget (as is done in the second part of this chapter). The budget provides a comprehensive measure of the Government's annual cash flows. Projecting it forward shows how the Government's sovereign powers are expected to generate cash flows in the future.

On the other side of the ledger are the Government's binding obligations such as Treasury debt, and the present discounted value of Federal obligations to pay pension benefits to Government retirees and current employees when they retire. These obligations have counterparts in the business world, and would appear on a business balance sheet. Accrued obligations for government insurance policies and the estimated present value of failed loan guarantees and deposit insurance claims are also analogous to private liabilities, and are included with the other Government liabilities.

These formal obligations, however, form only a subset of the Government's financial responsibilities.

The Government has established a broad range of programs that dispense cash and other benefits to individual recipients. The Government is not constitutionally obligated to continue payments under these programs; the benefits can be modified or even ended at any time, subject to the decisions of the elected representatives in Congress. Such changes are a regular part of the legislative cycle. Allowing for such changes, however, it is likely that many of these programs will remain Federal obligations in some form for the foreseeable future. Again, the best way to see how future responsibilities line up with future resources is to project the Federal budget forward far enough in time to capture the long-run effects of current and past decisions. Projections of this sort are presented below.

The budget, even when projected far into the future, does not show whether the public is receiving value for its tax dollars. Information on that point requires performance measures for government programs supplemented by appropriate information about conditions in the U.S. economy and society. Such data are currently available, but much more need to be developed to obtain a full picture. Examples of what might be done are also shown below. (Performance measures are discussed more fully in Section VI of this year's Budget.)

The presentation that follows consists of a series of tables and charts. All of them taken together function as a Federal balance sheet. The schematic diagram, Chart 2.1, shows how they fit together. The tables and charts should be viewed as an ensemble, the main elements of which can be grouped together in two broad categories—assets/resources and liabilities/responsibilities.

- Reading down the left-hand side of the diagram shows the range of Federal resources, including assets the Government owns, tax receipts it can expect to collect, and national wealth that provides the base for Government revenues.
- Reading down the right-hand side reveals the full range of Federal obligations and responsibilities, beginning with Government's acknowledged liabilities based on past actions, such as the debt held by the public, and going on to include future budget outlays. This column ends with a set of indicators highlighting areas where Government activity affects society or the economy.

# Chart 2-1. A BALANCE SHEET PRESENTATION FOR THE FEDERAL GOVERNMENT

# ASSETS/RESOURCES

# LIABILITIES/RESPONSIBILITIES

Federal Assets  Financial Assets Gold and Foreign Exchange Other Monetary Assets Mortgages and Other Loans Less Expected Loan Losses Other Financial Assets Physical Assets Fixed Reproducible Capital Defense Nondefense Inventories Non-reproducible Capital Land Mineral Rights	Federal Governmental Assets and Liabilities (Table 2-1)	Federal Liabilities  Financial Liabilities  Currency and Bank Reserves Debt Held by the Public Miscellaneous Guarantees and Insurance Deposit Insurance Pension Benefit Guarantees Loan Guarantees Other Insurance Federal Pension Liabilities  Net Balance
Resources/Receipts  Projected Receipts	Long-Run Federal Budget Projections (Table 2-2)	Responsibilities/Outlays  Discretionary Outlays  Mandatory Outlays  Social Security  Health Programs
	Change in Trust Fund Balances (Table 2-3)	Other Programs Net Interest Deficit
National Assets/Resources  Federally Owned Physical Assets State & Local Physical Assets	National Wealth (Table 2-4)	National Needs/Conditions  Indicators of economic, social, educational, and environmental
Federal Contribution Privately Owned Physical Assets Education Capital Federal Contribution R&D Capital Federal Contribution	Social Indicators (Table 2-5)	conditions to be used as a guide to Government investment and management.

#### PART I—THE FEDERAL GOVERNMENT'S ASSETS AND LIABILITIES

Table 2–1 summarizes what the Government owes as a result of its past operations along with the value of what it owns, for a number of years beginning in 1960. The values of assets and liabilities are measured in terms of constant FY 1998 dollars. For most of this period, Government liabilities have exceeded the value of assets, but until the early 1980s the disparity was relatively small, and it was growing slowly (see chart 2–2).

In the late 1970s, a speculative run-up in the prices of oil, gold, and other real assets temporarily boosted the value of Federal holdings, but since then those prices have declined.<sup>2</sup> Currently, the total real value of Federal assets is estimated to be only about 12 percent greater than it was in 1960. Meanwhile, Federal liabilities have increased by 167 percent in real terms. The sharp decline in the Federal net asset position was principally due to large Federal budget deficits along with a drop in certain asset values. Currently, the net excess of liabilities over assets is about \$3.2 trillion, or \$12,000 per capita.

#### Assets

The assets in Table 2–1 are a comprehensive list of the financial and physical resources owned by the Federal Government. The list corresponds to items that would appear on a typical balance sheet.

Financial Assets: According to the Federal Reserve Board's Flow-of-Funds accounts, the Federal Government's holdings of financial assets amounted to about \$0.2 trillion at the end of FY 1998. Government-held mortgages and other loans (measured in constant dollars) reached a peak in the mid-1980s. Since then, the value of Federal loans has declined. The holdings of mortgages, in particular, have declined sharply as holdings acquired from failed savings and loan institutions have been liquidated.

The face value of mortgages and other loans overstates their economic worth. OMB estimates that the discounted present value of future losses and interest subsidies on these loans is \$45 billion as of 1998. These estimated losses are subtracted from the face value of outstanding loans to obtain a better estimate of their economic worth.

Over time, variations in the price of gold have accounted for major swings in this category. Since the end of FY 1980, gold prices have fallen and the real value of U.S. gold and foreign exchange holdings has dropped by 58 percent.

Reproducible Capital: The Federal Government is a major investor in physical capital. Government-owned stocks of fixed capital amounted to about \$1.0 trillion

in 1998 (OMB estimate). About two-thirds of this capital took the form of defense equipment or structures.

Non-reproducible Capital: The Government owns significant amounts of land and mineral deposits. There are no official estimates of the market value of these holdings (and of course, in a realistic sense, much of this land could or would never be sold). Researchers in the private sector have estimated what they are worth, and these estimates are extrapolated in Table 2-1. Private land values fell sharply in the early 1990s, although they have risen somewhat since 1993. It is assumed here that federal land shared in the decline and the subsequent recovery. Oil prices have declined sharply in recent years and are now lower in nominal terms than at any time since the late 1980s, reducing the value of Federal mineral deposits. (The estimates omit other types of valuable assets owned by the Government, such as works of art or historical artefacts, simply because the valuation of such assets would have little realistic basis in fact, and because most of these objects would never be sold.)

Total Assets: The total real value of Government assets is lower now than at the end of the 1980s, principally because of declines in the real value of gold, land, and minerals. Even so, the Government's holdings are vast. At the end of 1998, the value of Government assets is estimated to have been about \$2.3 trillion.

# Liabilities

Table 2–1 includes only those liabilities that would appear on a business balance sheet. These include various forms of Federal debt, Federal pension obligations to civilian and military employees, and liabilities for Federal insurance and loan guarantee programs.

Financial Liabilities: Financial liabilities amounted to about \$3.9 trillion at the end of 1998. The largest component was Federal debt held by the public, amounting to around \$3.3 trillion. This measure of Federal debt is net of the holdings of the Federal Reserve System (about \$0.4 trillion at the end of FY 1998). Although independent in its policy deliberations, the Federal Reserve is part of the Federal Government, and its assets and liabilities are included here in the Federal totals. In addition to debt held by the public, the Government's financial liabilities include approximately \$0.5 trillion in currency and bank reserves, which are mainly obligations of the Federal Reserve System, and about \$0.1 trillion in miscellaneous liabilities.

Guarantees and Insurance Liabilities: The Federal Government has contingent liabilities arising from loan guarantees and insurance programs. When the Government guarantees a loan or offers insurance, cash disbursements may initially be small or, if a fee is charged, the Government may even collect money; but the risk of future cash payments associated with such commitments can be very large. The figures reported in Table 2–1 are prospective estimates showing the current discounted value of expected future losses. The

<sup>&</sup>lt;sup>2</sup>This temportary improvement highlights the importance of the othr tables in this presentation. What is good for the Federal Government as an asset holder is not necessary favorable to the economy. The decline in inflation in the early 1980s reversed the speculative runnup in gold and other commodity prices. This reduced the balance of Federal net assets, but it was good for the economy and the nation as a whole.

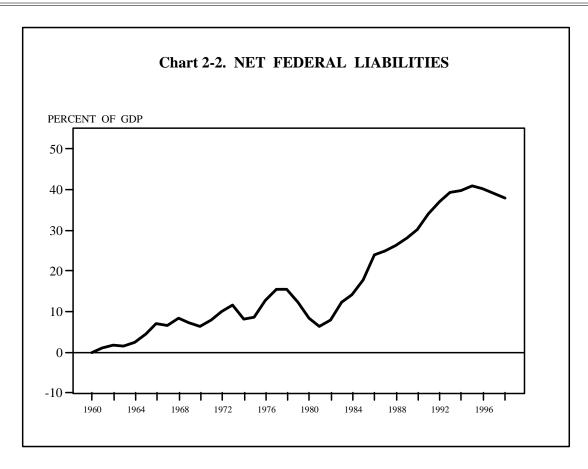
Table 2-1. GOVERNMENT ASSETS AND LIABILITIES \*

(As of the end of the fiscal year, in billions of 1998 dollars)

	1960	1965	1970	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998
ASSETS Financial Assets: Gold and Foreign Exchange	103 39 127 -1	72 55 163 -3 81	61 33 211 -4 65	136 15 211 -9 66	336 39 290 -17	161 25 356 -17	202 32 289 -19	181 23 293 -21	178 41 270 –23	178 41 240 -25	178 32 225 -27	185 32 213 –23 186	170 44 202 –23	142 45 200 –41	140 46 211 45
SubtotalPhysical Assets:	329	370	365	419	731	631	663	999	889	636	596	265	580	530	531
Pixed Reproducible Capital:  Defense Service Reproducible Capital:  Nondefense Service Reproducible Capital:	932 138 264	911 212 228	887 249 212	724 273 189	628 296 230	789 319 263	818 337 229	831 340 208	828 342 202	815 343 186	803 346 177	779 351 158	754 352 141	712 345 130	695 348 121
Land	91	126 304	157 250	243 348	309	332 712	328 476	299 451	267 425	251 404	247 374	248 351	251 398	261 418	277 351
Subtotal	1,753	1,782	1,755	1,776	2,095	2,415	2,188	2,129	2,065	2,000	1,948	1,887	1,895	1,867	1,792
Total Assets	2,082	2,152	2,120	2,196	2,826	3,047	2,851	2,795	2,753	2,636	2,544	2,479	2,475	2,397	2,323
Einancial Liabilities: Currency and Bank Reserves Debt held by the Public Miscellaneous	230 999 26	253 986 28	279 836 30	284 822 43	285 1,063 67	302 1,887 93	360 2,590 139	365 2,793 127	383 3,050 119	413 3,201 118	439 3,287 115	447 3,381 111	458 3,438 112	478 3,390 105	514 3,274 106
Subtotal	1,254	1,265	1,145	1,149	1,415	2,283	3,089	3,286	3,552	3,732	3,840	3,940	4,008	3,974	3,894
Insurance Liabilities:  Deposit Insurance  Pension Benefit Guarantee 1  Loan Guarantees  Other Insurance	0 0 31	0 0 0 78	0 0 22	0 43 20	2 31 12 27	9 43 10	69 42 15	76 46 19	39 51 27 19	13 66 30 18	9 32 32 17	5 20 28 17	2 54 32 16	30 30 16	40 22 16
SubtotalFederal Pension Liabilities	31	29	1,194	70	72	79	146	165 1,683	135	127 1,629	90	69	105 1,579	1,588	78 1,587
Total Liabilities Balance	2,080	3,301	2,363	2,574	3,269	4,127 -1,080	4,929	5,133 -2,339	5,381 -2,629	5,488 -2,851	5,534 -2,989	5,628 -3,149	5,691 -3,216	5,640	5,559
Balance Per Capita (in 1998 dollars)	12 0.1	-766 -4.6		-1,184 -1,752 -1,938 -4,519 -6.3 -8.7 -8.5 -17.8 Reserve System Therefore it does not break out	-1,938 -8.5	-4,519 -17.8	-8,288 -30.1	-9,231 -33.9	-10,262 -11,016 -37.0 -39.2	-11,016 -39.2		-11,936 -41.0	-11,438 -11,936 -12,081 -12,077 -11,9 -39.7 -41.0 -40.3 -39.1 -3.	-12,077 -39.1	-11,947 -37.7

\*This table shows assets and liabilities for the Government as a whole, including the Federal Reserve System. Therefore, it does not break out separately the assets held in Government accounts, such as Social Security, that are the obligation of specific Government agencies. Estimates for FY 1998 are extrapolated in some cases.

1 The model and data used to calculate this liability were revised for 1996–1997.



present value of all such losses taken together is about \$0.1 trillion. The resolution of the many failures in the savings and loan and banking industries has helped to reduce the liabilities in this category by more than half since 1990.

Federal Pension Liabilities: The Federal Government owes pension benefits to its retired workers and to current employees who will eventually retire. The amount of these liabilities is large. The discounted present value of the benefits is estimated to have been around \$1.6 trillion at the end of FY 1998.<sup>3</sup>

# The Balance of Net Liabilities

Because of its sovereign powers, the Government need not maintain a positive balance of net assets, and the rapid buildup in liabilities since 1980 has not damaged Federal creditworthiness. However, from 1980 to 1992, the balance between Federal liabilities and Federal assets did deteriorate at a very rapid rate. In 1980, the negative balance was less than 10 percent of GDP; by 1995 it was 41 percent of GDP. Since then, the net balance as a percentage of GDP has improved for three straight years. If a budget surplus is maintained, the net balance will continue to improve.

# PART II-THE BALANCE OF RESOURCES AND RESPONSIBILITIES

As noted in the preceding section, a business-type accounting of assets and liabilities misses the role of the Government's unique sovereign powers, including taxation. Therefore, the best way to examine the balance between future Government obligations and resources is by projecting the budget over the long run. The budget offers a comprehensive measure of the Government's annual financial burdens and resources. By projecting annual receipts and outlays, it is possible to examine whether there will be sufficient resources to support all of the Government's ongoing obligations.

jections of the Federal budget extending beyond the normal budget horizon. Forecasting the economy and the budget over such a long period is highly uncertain. Future budget outcomes depend on a host of unknowns—constantly changing economic conditions, unforeseen international developments, unexpected demographic shifts, the unpredictable forces of technological advance, and evolving political preferences. Those uncertainties increase the further into the future the projections are pushed. Even so, long-run budget projections are needed to assess the full implications of cur-

This part of the presentation describes long-run pro-

 $<sup>^3</sup>$  These pension liabilities are expressed as the actuarial present value of benefits accrued-to-date based on past and projected salaries. The cost of retiree health benefits is not included. The 1998 liability is extrapolated from recent trends.

rent action or inaction, and to sound warnings about future problems that could be avoided by timely action. The Federal Government's responsibilities extend well beyond the next decade. There is no time limit on Government's constitutional responsibilities, and programs like Social Security are intended to continue indefinitely.

It is evident even now that there will be mounting challenges to the budget early in the next century. By 2008, the first of the huge baby-boom generation born after World War II will become eligible for early retirement under Social Security. In the years that follow there will be serious strains on the budget because of increased expenditures for Social Security, Medicare, and Medicaid. Long-range projections can help indicate how serious these strains might become and what is needed to withstand them.

The retirement of the baby-boomers dictates the timing of the problem, but the underlying cause is deeper. The growth of the U.S. population has been slowing down, and because of that and because people are living longer, a change is inevitably coming in the ratio of retirees to workers given current retirement patterns. The budgetary pressure from these trends is temporarily in abeyance. In the 1990s, the large baby-boom cohort has been moving into its prime earning years, while the retirement of the much smaller cohort born during the Great Depression has been holding down the rate of growth in the retired population. The suppressed budgetary pressures are likely to burst forth when the baby-boomers begin to retire. However, even after the baby-boomers have passed from the scene later in the century, a higher ratio of retirees to workers is expected to persist because of the underlying pattern of low fertility and improving longevity, with concomitant problems for the retirement programs. These same problems are gripping other developed nations, even those that never experienced a baby-boom; in fact, those nations that did not have baby-booms are facing their demographic pressures already.

The Improvement in the Long-Range Outlook.— Since this Administration first took office, there have been major changes in the long-run budget outlook. In January 1993, the deficit was clearly on an unstable trajectory. Had the policies then in place continued unchanged, the deficit would have steadily mounted not only in dollar terms, but relative to the size of the economy. At that time, the deficit was projected to rise to over 10 percent of GDP by 2010—a level unprecedented for peacetime—and to continue sharply upward thereafter. This would have driven Federal debt held by the public to unsustainable levels.

The Omnibus Budget Reconciliation Act of 1993 (OBRA) changed that. Not only did it reduce the near-term deficit, but, aided by the strong economy that

it helped to create, it also reduced the long-term deficit. Prior to enactment of the Balanced Budget Agreement in 1997, however, the deficit was expected to persist, though at a more moderate level. In the absence of further policy changes, it was projected to remain at around 1.5 percent of GDP through 2010, and afterwards to begin an unsustainable rise that would eventually exceed 20 percent of GDP.

The Balanced Budget Agreement (BBA) took the next major step. With the strength of the economy over the last three years, the budget reached balance ahead of schedule; and thanks to the BBA, it is now projected to remain in surplus throughout the next decade. Extending the policies in this budget beyond the usual budget window, a surplus may be sustained for many years, although a deficit is projected to reemerge in the long run absent further policy changes. How long the surplus can be preserved depends on certain key factors, some of the most important of which are illustrated in Chart 2–3.

Fiscal discipline is crucial for long-run budget stability. The rate of growth in discretionary spending helps determine the margin of resources available to devote to other purposes, such as debt reduction. Chart 2–3 illustrates how the surplus varies depending on assumptions about future growth in discretionary spending. Another key factor is the expected growth of Federal health care costs. The usual forecasting convention in past budgets was to adopt the long-range projections of the Medicare actuaries. Those projections include a slowdown in the rate of growth in real per capita spending under Medicare beginning in about 15 years. More rapid growth of Medicare, closer to the historical trend for the program, would result in a faster return to deficits, as shown in Chart 2–3.

Under most reasonable alternatives, the long-run budget outlook contrasts favorably with the generally prevailing opinion among budget experts just a few years back. Then, it was held that the long-run outlook for the deficit was necessarily bleak. For some time, there has been a general consensus among demographers and economists that population trends in the next century will put strains on the budget, and it was thought that these strains must inevitably lead to large deficits. For example, the 1994 report of the Bipartisan Commission on Entitlement and Tax Reform found that there is a "long-term imbalance between the government's entitlement promises and the funds it will have available to pay for them." The Congressional Budget Office (CBO) has observed: "If the budgetary pressure from both demography and health care spending is not relieved by reducing the growth of expenditures or increasing taxes, deficits will mount and seriously erode future economic growth."5 On a narrower front, the annual Trustees' reports for both Social Security and Medicare have for some time projected long-run actuarial deficiencies.

One sign that the consensus may have shifted somewhat as a result of recent policy actions is provided

<sup>&</sup>lt;sup>4</sup>Over long periods when the rate of inflation is positive, comparisons of dollar values are meaningless. Even the low rate of inflation assumed in this budget will reduce the value of a 1998 dollar by 50 percent by 2030, and by almost 70 percent by the year 2050. For long-run comparisons, it is much more useful to examine the ratio of the deficit and other budget categories to the expected size of the economy as measured by GDP.

<sup>&</sup>lt;sup>5</sup> Long-Term Budgetary Pressures and Policy Options, March 1997.

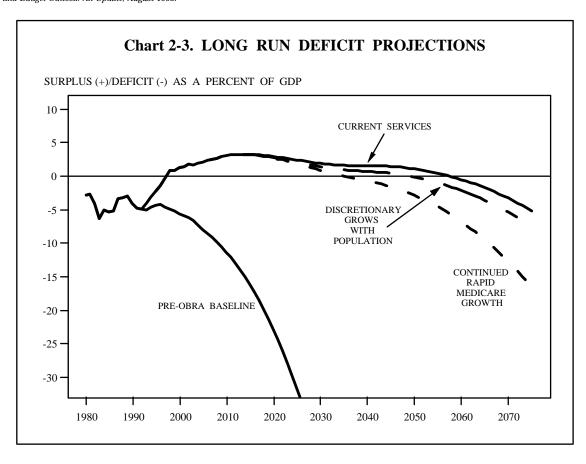
by the most recent of a series of reports from the General Accounting Office (GAO) on the long-run budget outlook.<sup>6</sup> GAO observes that, "Major progress has been made on deficit reduction ... While our 1995 simulations showed deficits exceeding 20 percent of GDP by 2024 ..., our updated model results show that this point would not be reached until nearly 2050." GAO continues to find that unsustainable deficits emerge in the long run absent major entitlement reforms, but the date at which the deficit starts to rise has been postponed significantly as a result of recent actions.

Another sign is provided by CBO's projection last August of how the surplus would evolve under the policies in place at that time. CBO foresaw a rising budget surplus through 2008, reaching almost 2 percent of GDP.7 CBO's long-range projections envisioned continued surpluses that would bring debt held by the public close to zero by around 2020. Beyond that point, however, CBO projected a return of the deficit which would eventually drive up the level of Federal debt to unsustainable levels. The summary measure that CBO has used to indicate the magnitude of the long-run fiscal imbalance—the permanent change in taxes needed to stabilize the ratio of debt to GDP—declined to 1.2 percent of GDP from 5.4 percent of GDP in its original long-range projections from May 1996.

The main reason for this improvement in the outlook has been the unexpected increase in the near-term budget surplus. Using the surpluses to retire Federal debt, as was done in 1998, will dramatically reduce debt held by the public and Federal net interest payments. Last year, net interest amounted to almost 3 percent of GDP. Under current estimates that would be cut to under 1 percent of GDP in 2009, assuming future surpluses are actually realized. This means that when the demographic pressures on Social Security and the Federal health programs begin to mount after 2008, there will be more budgetary resources available to meet the problem, and that postpones the date on which the deficit in the unified budget returns.

Economic and Demographic Assumptions.—Longrun budget projections require a long-run demographic and economic forecast even though any such forecast is highly uncertain and is likely to be at least partly wrong. The forecast used here extends the Administration's medium-term economic projections described in the first chapter of this volume, augmented by the longrun demographic projections from the most recent Social Security Trustees' Report.

• Inflation, unemployment and interest rates are assumed to hold stable at their values in the last year of the Administration budget projections, 2009: 2.3 percent per year for CPI inflation, 5.3



<sup>&</sup>lt;sup>6</sup> Analysis of Long-Term Fiscal Outlook, October 1997.

<sup>&</sup>lt;sup>7</sup> The Economic and Budget Outlook: An Update, August 1998.

percent for the unemployment rate, and 5.4 percent for the yield on 10-year Treasury notes.

- Productivity growth is assumed to continue at the same constant rate as it averages in the Administration's medium-term projections: 1.3 percent per year.
- In line with the most recent projections of the Social Security Trustees, population growth is expected to slow over the next several decades. This is consistent with recent trends in the birth rate. The slowdown is expected to lower the rate of population growth from over 1 percent per year in the early 1990s to about half that rate by 2025.
- Labor force participation is also expected to decline as the population ages and the proportion of retirees in the population increases. The Administration projects a higher rate of labor force participation over the next decade than is assumed in the latest Trustees' Report. That difference is preserved in the long-run projections below.
- The projected rate of economic growth is determined in the long run by growth of the labor force plus productivity growth. Because labor force growth is expected to slow and productivity growth is assumed to be constant, real GDP growth is expected to decline from around 2.4 percent per year to an average rate of 1.5 percent per year after 2020. This is a logical implication of the other assumptions which are based on reasonable forecasting conventions; however, it implies a marked departure from the historical rate of growth in the U.S. economy.

The economic projections described above are set by assumption and do not automatically change in response to changes in the budget outlook. This is unrealistic, but it simplifies comparisons of alternative policies. A more responsive (or dynamic) set of assumptions would serve mainly to strengthen the same conclusions reached by the current approach. Both CBO and GAO in their investigations of the long-run outlook have explored such feedback effects and found that they accelerate the destabilizing effects of sustained budget deficits. Similarly, but in the opposite direction, budget surpluses would be expected to lead to higher national saving, lower real interest rates, and more economic growth which would increase Federal receipts and lower outlays, further augmenting projected surpluses.

Alternative Budget Baselines.—Chart 2–3 shows four alternative budget projections: one based on the policies in place prior to enactment of OBRA; and three others showing current projections, including the mandatory spending proposals in this budget under alternative assumptions about discretionary spending and future Federal health care costs. The chart illustrates the dramatic improvement in the deficit that has already been achieved. Furthermore, it shows that if the budget remains in surplus throughout the next decade, as is now expected, it will substantially ease the task of maintaining fiscal stability when the demographic bulge begins to hit after 2008. Table 2–2 shows long-

range projections for the major categories of spending under the three alternatives based on the current budget and shown in Chart 2–3.

The table shows that for all three alternatives the entitlement programs are expected to absorb an increasing share of budget resources.

- In all three alternatives, Social Security benefits, driven by the retirement of the baby-boom generation, rise from 4.5 percent of GDP in 2000 to 7.0 percent in 2030. They continue to rise after that but more gradually, eventually reaching 7.8 percent of GDP by 2075.
- In all three alternatives, Federal Medicaid spending goes up from 1.3 percent of GDP in 2000 to 3.1 percent in 2030 and almost 9 percent of GDP in 2075.
- Under the Medicare actuaries' long-range projections, Medicare rises from 2.3 percent of GDP in 2000 to 4.4 percent in 2030 and 5.0 percent by 2075. If the real per capita growth rate in Medicare does not slow as much as the actuaries have assumed, the program could expand even more rapidly. In the alternative with faster spending growth, Medicare outlays reach 5.1 percent of GDP in 2030, and 9.5 percent by 2075.
- Under current services assumptions, discretionary spending falls as a share of GDP, from 6.5 percent in 2000 to 4.3 percent in 2030 and 3.0 percent of GDP in 2075. The programs grow with inflation and Government wages keep pace with those paid in the private sector, but they do not keep up with population. Allowing discretionary spending to expand with both inflation and population would moderate the decline in spending as a share of GDP. Under this assumption, discretionary spending is 4.7 percent of GDP in 2030, and 3.6 percent of GDP in 2075.

The long-run budget outlook is much improved because of actions taken by this Administration in cooperation with the Congress. Eliminating the budget deficit has set the budget on a solid footing for many years to come. With a continuation of the Administration's economic assumptions, the budget could remain in surplus for several decades.

However, although receipts are higher and net interest outlays are lower in these projections than they were before, the underlying demographic problems have not been eliminated, and rising health care costs are also likely to continue to put pressure on the budget. Under current services assumptions, a primary, or noninterest, deficit reappears in 2033, after the retirement of the baby-boom generation is virtually completed. Although the underlying imbalance is small, and the unified budget remains in surplus for many more years, a sustained primary deficit is sufficient to begin a slow but irreversible spiral. The recurrence of the unified deficit is inevitable once this happens unless there are future changes in policy. Under the alternative base-

<sup>&</sup>lt;sup>8</sup>The primary or non-interest surplus is the difference between all outlays, excluding interest, and total receipts. It can be positive even when the total budget is in deficit.

Table 2–2. LONG-RUN BUDGET PROJECTIONS OF 2000 BUDGET POLICY

(Percent of GDP)

	1995	2000	2005	2010	2020	2030	2040	2050	2060	2070	2075
Current Services											
Receipts	18.8	20.7	20.0	20.1	20.6	20.9	21.2	21.4	21.5	21.6	21.6
Outlays	21.1	19.4	18.0	17.1	17.6	19.0	19.6	20.3	22.0	24.9	26.8
Discretionary	7.6	6.5	5.6	5.1	4.6	4.3	3.9	3.6	3.4	3.1	3.0
Mandatory	10.3	10.5	11.0	11.5	14.0	16.4	17.5	18.5	20.1	22.0	23.1
Social Security	4.6	4.5	4.5	4.7	6.0	7.0	7.2	7.2	7.5	7.7	7.8
Medicare	2.2	2.3	2.5	2.7	3.5	4.4	4.7	4.7	4.8	5.0	5.0
Medicaid	1.2	1.3	1.5	1.7	2.4	3.1	4.0	5.0	6.3	7.9	8.9
Other	2.2	2.5	2.5	2.4	2.1	1.9	1.7	1.5	1.4	1.4	1.4
Net Interest	3.2	2.4	1.4	0.5	-1.0	-1.7	-1.9	-1.9	-1.5	-0.2	0.8
Surplus(+)/Deficit(-)	-2.3	1.3	2.0	3.1	2.9	1.9	1.6	1.1	-0.5	-3.3	-5.2
Federal debt held by the public	50.1	39.2	24.0	7.0	-21.8	-35.2	-38.3	-38.5	-29.3	-3.4	17.9
Primary surplus/deficit (–)	0.9	3.7	3.5	3.6	1.9	0.2	-0.3	-0.8	-2.0	-3.5	-4.4
Discretionary Grows with Population											
Receipts	18.8	20.7	20.0	20.1	20.6	20.9	21.2	21.4	21.5	21.6	21.6
Outlays	21.1	19.4	18.0	17.1	17.8	19.6	20.5	21.5	23.6	27.0	29.2
Discretionary	7.6	6.5	5.6	5.1	4.8	4.7	4.4	4.2	3.9	3.7	3.6
Mandatory	10.3	10.5	11.0	11.5	14.0	16.4	17.5	18.5	20.1	22.0	23.1
Social Security	4.6	4.5	4.5	4.7	6.0	7.0	7.2	7.2	7.5	7.7	7.8
Medicare	2.2	2.3	2.5	2.7	3.5	4.4	4.7	4.7	4.8	5.0	5.0
Medicaid	1.2	1.3	1.5	1.7	2.4	3.1	4.0	5.0	6.3	7.9	8.9
Other	2.2	2.5	2.5	2.4	2.1	1.9	1.7	1.5	1.4	1.4	1.4
Net Interest	3.2	2.4	1.4	0.5	-1.0	-1.5	-1.5	-1.2	-0.4	1.3	2.5
Surplus(+)/Deficit(-)	-2.3	1.3	2.0	3.1	2.8	1.4	0.7	-0.1	-2.1	-5.4	-7.6
Federal debt held	50.1	39.2	24.0	7.0	-21.3	-31.7	-29.7	-23.3	-6.0	29.3	55.8
Primary surplus/deficit(–)	0.9	3.7	3.5	3.6	1.8	-0.1	-0.7	-1.3	-2.5	-4.1	<del>-</del> 5.1
	0.3	3.7	5.5	3.0	1.0	-0.1	-0.7	-1.5	-2.5	-4.1	-5.1
Continued Rapid Medicare Growth	40.0	00.7	00.0	00.4	00.0		04.0		04.5		
Receipts	18.8	20.7	20.0	20.1	20.6	20.9	21.2	21.4	21.5	21.6	21.6
Outlays	21.1	19.4	18.0	17.1	17.8	20.0	21.8	24.2	28.3	34.3	38.2
Discretionary	7.6	6.5	5.6	5.1	4.6	4.3	3.9	3.6	3.4	3.1	3.0
Mandatory	10.3	10.5	11.0	11.5	14.2	17.2	19.0	20.6	23.0	25.9	27.5
Social Security	4.6	4.5	4.5	4.7	6.0	7.0	7.2	7.2	7.5	7.7	7.8
Medicare	2.2	2.3	2.5	2.7	3.7	5.1	6.1	6.8	7.8	8.9	9.5
Medicaid	1.2	1.3	1.5	1.7	2.4	3.1	4.0	5.0	6.3	7.9	8.9
Other	2.2	2.5	2.5	2.4	2.1	1.9	1.7	1.5	1.4	1.4	1.4
Net Interest	3.2	2.4	1.4	0.5	-1.0	-1.4	-1.0	-0.1	1.9	5.3	7.6
Surplus(+)/Deficit(-)	-2.3	1.3	2.0	3.1	2.7	0.9	-0.7	-2.9	-6.8	-12.7	-16.6
Federal debt held by the public	50.1	39.2	24.0	7.0	-21.2	-29.4	-19.8	1.9	44.1	117.5	168.9
Primary surplus/deficit(-)	0.9	3.7	3.5	3.6	1.7	-0.5	-1.7	-2.9	-4.9	-7.5	-8.9

lines shown in Chart 2–3 and Table 2–2, the primary deficit reappears even sooner. When discretionary spending grows with both population and inflation, the primary deficit reappears in 2030, and when Medicare grows more rapidly, it recurs in 2028. In all cases, a unified deficit reappears before the end of the 75 year forecast period.

The Effects of Alternative Economic and Technical Assumptions. The results discussed above are highly sensitive to changes in underlying economic and technical assumptions. The three alternatives in Table 2–2 illustrate the impact of some of the key variables, but other scenarios are possible as well. There are also other policy choices that would make a large difference in the outlook. While the budget could remain under control for several decades before underlying problems reemerge, other assumptions can produce more pessimistic or more optimistic outcomes. Some of the most

important of these alternative economic and technical assumptions and their effects on the budget outlook are described below. Each highlights one of the key uncertainties in the outlook. Generally, the negative possibilities receive more attention than the positive ones, because the dangers are greater in this direction.

1. Discretionary Spending. By convention, the current services estimates of discretionary spending are assumed to rise with the rate of inflation. This assumption, or any other, is essentially arbitrary, because discretionary spending is always determined annually through the legislative process, and no formula can dictate future spending in the absence of legislation. The current services assumption implies that the physical quantity of Federal services is unchanging over time. This requires, for example, that the Nation's future defense needs do not vary systematically from their current projected levels.

One alternative to this assumption has already been presented in Chart 2–3 and Table 2–2. The second alternative considered there allowed discretionary spending to increase with both population and inflation after

A relatively small primary surplus can stabilize the budget even when the total budget is in deficit, and similarly, even a small primary deficit can destabilize a budget. The mathematics are inexorable.

2014. This might be the appropriate assumption for such domestic activities as those of the FBI or the Social Security Administration which are sensitive to population trends.

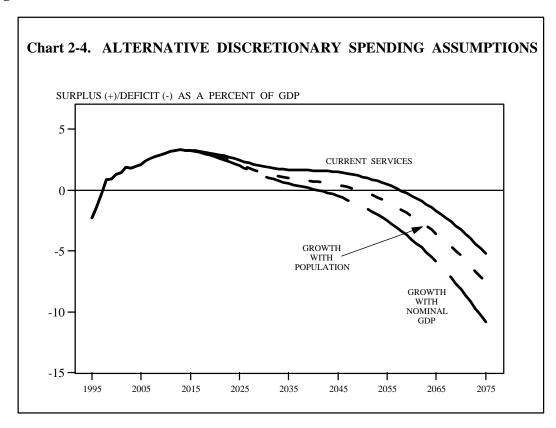
Some budget analysts have assumed alternatively that discretionary spending rises in proportion to GDP in the long run; this requires it to increase in real terms whenever there is positive real economic growth. That is a more generous assumption for Government spending than the assumption of constant real per capita spending. It might be argued that with rising real per capita incomes, the public demand for Government services—more national parks, better transportation, additional Federal support for scientific research would increase as well. However, some of these demands might be met within fixed real spending limits through increased productivity in the Federal sector, such as has accompanied recent reductions of the Federal workforce. The assumption that discretionary spending will rise proportionately with GDP also flies in the face of recent experience; since its peak in 1968, the discretionary spending share of GDP has been cut in half—from 13.6 percent to 6.6 percent in 1998.

Thus, there are arguments on both sides. Chart 2–4 compares the baseline alternatives with a scenario in which discretionary spending rises in step with nominal GDP after 2014.

2. Health Spending: Some of the most volatile and unpredictable elements in recent budgets have been Medicare and Medicaid. Expenditures for these programs have grown much faster than those of other enti-

tlements, including Social Security. After the last year of the standard budget estimates in 2009, real per capita growth rates for Medicare benefits are based on the actuarial projections in the latest report of the Medicare Trustees, which slow down markedly in the long run. Eventually, spending for Medicare is assumed to grow at approximately the same rate as GDP. Such a slowdown may occur, and eventually, the ever-rising trend in health care costs for both Government and the private sector will have to end, but it is hard to know when and how that will happen. Improved health and increased longevity are highly valued, and society may be willing to spend even more on them than it does now. As an alternative, one of the current policy baselines allows real per capita Medicare benefits to rise at an annual rate of 2.2 percent per year in the long run. This is about twice as fast as the actuarial assumption, and implies a rapidly rising level of Medicare spending for many years to come. Eventually, Medicare would exceed 10 percent of GDP on this assumption (see Table 2-2).

3. *Taxes:* In the absence of policy changes, the ratio of taxes to GDP is not assumed to vary much in these long-range projections. There is a tendency for individual income taxes to rise relative to income, because the assumed rate of real income growth implies some "real bracket creep." The tax code is indexed for inflation, but not for increases in real income. Eventually, a larger percentage of taxpayers will be in higher tax brackets and this will raise the ratio of taxes to income. However, other Federal taxes tend to decline in real



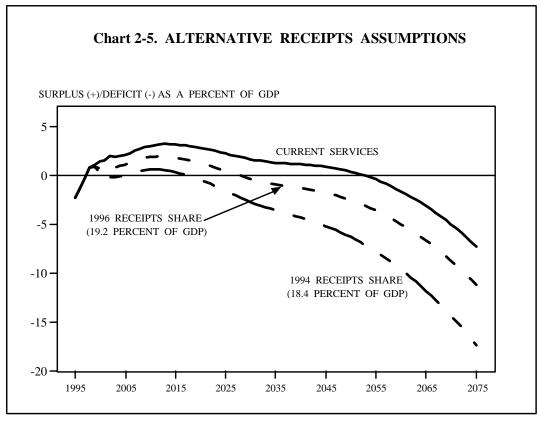
terms in the absence of policy changes. Many excise taxes are set in nominal terms, so collections decline as a share of GDP when there is inflation. Overall, Federal receipts are projected to rise by about 1 percentage point of GDP in the very long run.

The starting point for these projections is the current ratio of Federal receipts to GDP. That ratio reached 20.5 percent in 1998, the highest level since World War II. This was not the result of new Federal taxes. Tax rates have been essentially unchanged since 1994, when the changes enacted in OBRA took effect. Since then, however, tax collections as a share of GDP have risen by two percentage points. The reasons for this increase are not yet fully understood. The rapid rise in the stock market, which has generated large capital gains for investors and made possible lucrative stock options and bonuses for executives, is generally believed to be a major factor. This Budget assumes that there will be some moderation in the ratio of receipts to GDP over the next few years. The share of revenues in the medium term is below the peak levels recently experienced. Even so, receipts are projected to remain above their historical average relative to the economy. Should this assumption prove overoptimistic, it would have a strong effect on the long-range budget projections.

In Chart 2–5, the current services baseline is compared with two alternatives for receipts. In one, the share of receipts is assumed to return to the level posted in 1996, 19.2 percent of GDP; in the other, to the level in 1994, 18.4 percent of GDP. The return to these earlier levels is completed by 2001. Afterwards, taxes

grow at the rates projected under current policies. The difference in the starting point for taxes can alter the outlook for the surplus/deficit quite dramatically. This is another example of how small differences in the primary surplus can eventually produce large effects on the total surplus/deficit because of mounting or falling interest expense.

4. What To Do With the Budget Surpluses. The current projections show the budget in surplus for several decades under a wide range of assumptions. These surpluses dramatically reduce debt held by the public, and therefore net interest outlays, which augments the surplus. In a sense, a budget surplus that is used to reduce debt feeds on itself by reducing future interest outlays. Thus, if these surpluses were limited by increased spending or reduced taxes, it would change the outlook. Chart 2–6 shows the budget's path if it were held exactly in balance rather than being allowed to run surpluses. This would require policy changes to increase spending or reduce taxes. These changes could take two general forms. The spending or tax changes made possible by the surpluses could be purely temporary. This would be the case for tax rebates or one-time grants. If such changes were made, program spending and receipts would eventually return to their original baseline paths, although interest spending would be permanently higher. Alternatively, the spending increases or tax reductions could be permanently built into the budget. This would be the case if they took the form of tax rate cuts or increases in entitlements. Such changes are assumed to alter the baselines for



outlays or receipts permanently, and have a larger longrun effect on the projected surplus. In both cases, the deficit returns sooner than it would if the surplus were used to reduce debt.

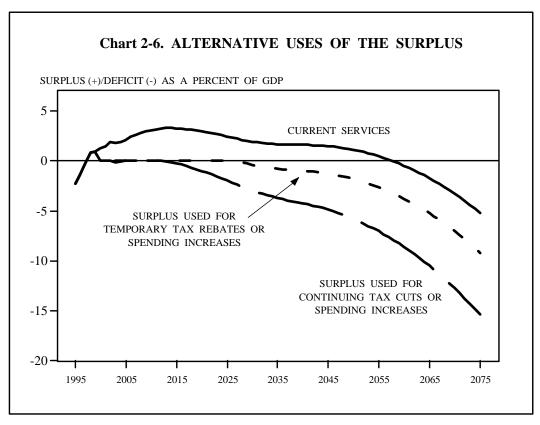
5. What Happens to the Debt? A surplus means the Government takes in more receipts from the public than it pays out in the form of Government outlays. The extra receipts are used to retire debt. This is not unlike a family paying off its mortgage, and like a family with a mortgage, the Government may eventually be free from debt. This has only happened once before in the history of the United States, and then only briefly a century and a half ago, but with the current level of projected surpluses, such an eventuality has become a possibility. When the budget window closes in 2009, the Administration projects that debt held by the public will have fallen to around 10 percent of GDP, lower than at any time since before U.S. entry into World War I.

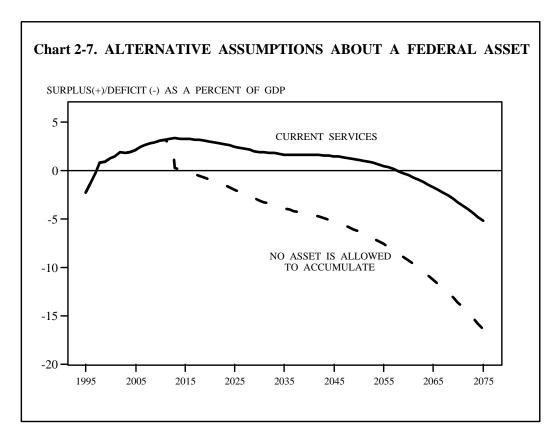
With surpluses running at around  $2^{1/2}$  percent to 3 percent of GDP in the Administration's projections, it is obvious where the trend is headed. At this rate, within a few years after 2009, the entire debt held by the public would be repaid. At that point, further surpluses would no longer be used to retire Federal debt; instead, they would be accumulated in the form of Federal assets. As the Government accumulated financial reserves, these reserves would earn interest which would add to the surplus, further adding to the assets. In the long-run budget projections, the asset continues to build up until shifts in the underlying

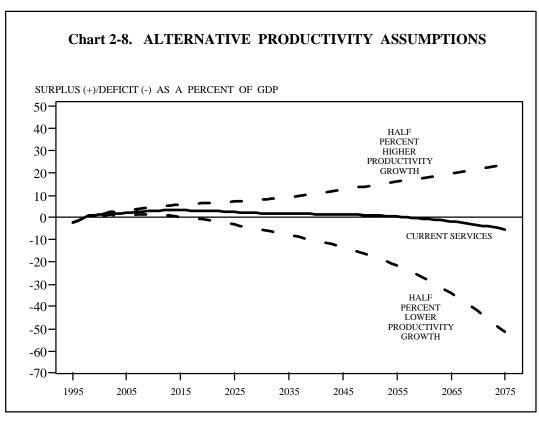
budgetary position cause the surplus gradually to unwind. Eventually, a deficit reappears and the asset is drawn down; ultimately, Federal debt is issued again. It is a measure of the severity of the impending demographic pressures that the national asset does not grow into the indefinite future—which it could, just as easily as did the national debt in the adverse projections of just a few years ago.

Such an outcome is unlikely to happen—certainly in the simple form sketched here—but it stems from a reasonable desire to avoid making policy judgments. The projections imply that with sufficient discipline, the Federal debt could be repaid under an extension of current budget policies. It would require a change in policy to avoid that outcome. Chart 2–7 compares the current services baseline with a scenario in which spending is permanently increased or taxes permanently cut when Federal debt held by the public reaches zero. Without the national asset, the deficit reappears much sooner. The interest earned by the asset is no longer available to fill the budgetary hole when the drain of future entitlement claims begins to mount.

6. Productivity: Productivity growth in the U.S. economy slowed down after 1973. This slowdown is responsible for the slower rise in U.S. real incomes since that time. Productivity growth is affected by changes in the budget surplus/deficit which influence national saving, but many other factors influence it as well. The surplus/deficit in turn is affected by changes in productivity growth which affect the size of the economy, and hence future receipts. Two alternative scenarios illustrate



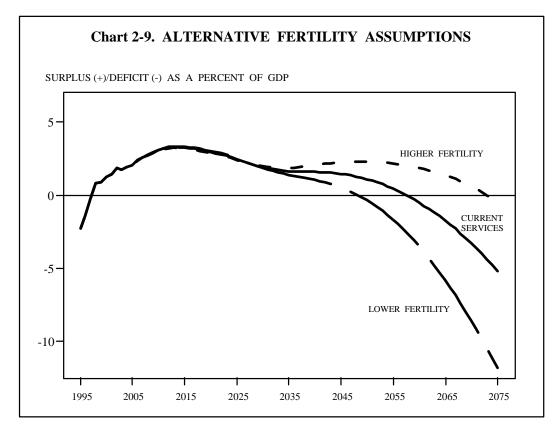


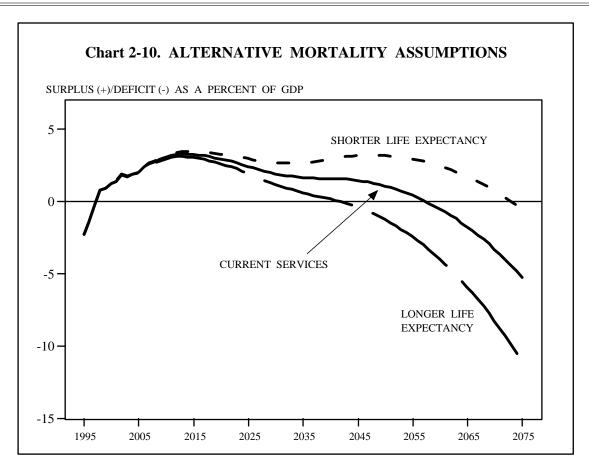


what would happen to the budget deficit if productivity growth were either higher or lower than assumed. A higher rate of growth would make the task of preserving a balanced budget much easier; indeed, it would permit expanded spending or reduced taxes without threatening to drive the budget back into deficit. A lower productivity growth rate would have the opposite effect. Chart 2–8 shows how the surplus/deficit varies with changes of one-half percentage point of average productivity growth in either direction.

- 7. Population: In the long run, shifting demographic patterns are the main source of change in these projections. The changing rate of population growth feeds into real economic growth through its effect on labor supply and employment. Changing demographic patterns also affect entitlement spending, contributing to the surge of spending expected for Social Security, Medicare, and Medicaid. The key assumptions underlying these demographic projections concern future fertility, mortality and immigration.
  - The main reason for the projected slowdown in population growth is the expected continuation of a low fertility rate. Since 1990, the number of births per woman in the United States has averaged between 2.0 and 2.1—slightly below the replacement rate needed to maintain a constant population. The fertility rate was even lower than this in the 1970s and 1980s. The demographic projections assume that fertility will average around 1.9 births per woman in the future. Fertility is hard to predict. Both the baby boom in the

- 1940s and 1950s and the baby bust in the 1960s and 1970s surprised demographers. A return to higher fertility rates is possible, but so is another drop in fertility. The U.S. fertility rate has never fallen below 1.7, but such low rates have been observed recently in some European countries. Chart 2–9 shows the effects of alternative fertility assumptions on the surplus/deficit; higher fertility contributes to a larger labor force, increased aggregate incomes, and revenues; and hence increases the projected surplus. Lower fertility has the opposite effect.
- The increasing proportion of the elderly in the U.S. population is due to both lower fertility, which reduces the number of children per adult, and longer lifespans. Since 1970, the average lifespan for U.S. women has increased from 74.9 years to 79.4 years, and it is projected to rise to 80.4 years by 2010. Men do not live as long as women on average, but their lifespan has also increased, from 67.1 years in 1970 to 73.1 years in 1995, and it is expected to reach 74.9 years by 2010. Longer lifespans mean that more people will live to receive Social Security and Medicare benefits, and will receive them for a longer time. If, on the other hand, the U.S. population were to experience no further reductions in mortality from current levels, the shorter lifespans would help to improve the surplus/deficit. Conversely, if the population lives longer than now expected, the





outlook for the surplus/deficit would worsen. This is illustrated in Chart 2–10.

A final factor influencing long-run projections is the rate of immigration. The United States is an open society. In the 19th century, a huge wave of immigration helped build the country; the last two decades of the 20th century have witnessed another burst of immigration. The net flow of legal immigrants has been averaging around 850,000 per year since 1992, while illegal immigration adds to these figures. This is the highest absolute rate in U.S. history, but as a percentage of population it is only about a third as high as immigration was in 1901–1910. Chart 2–11 presents alternatives in which future immigration is held to zero and allowed to rise 50 percent above and 50 percent below the intermediate actuarial assumption in the Social Security Trustees' Report.

Conclusion.—Under President Clinton, the long-run budget outlook has improved significantly. When this Administration took office, the deficit was projected to spiral out of control early in the next century, reaching levels never seen before except temporarily during major wars. The outlook now is drastically different. Under current policy assumptions, last year's surplus marks the beginning of a period of sustained budget surpluses. Eventually, without further reforms to the entitlement programs, a return to budget deficits is

projected. How soon that will occur is difficult to estimate. Avoiding a quick return to deficits will require budget discipline. Both Social Security and Medicare continue to confront long-run deficits in their respective Trust Funds, which must be addressed regardless of the prospects for the unified surplus. But the favorable outlook for the unified budget should make it easier to solve these difficult problems.

# Actuarial Balance in the Social Security and Medicare Trust Funds

The Trustees for the Social Security and Hospital Insurance Trust Funds issue annual reports that include projections of income and outgo for these funds over a 75-year period. These projections are based on different methods and assumptions than the long-run budget projections presented above, although the projections do rely on a common set of assumptions for population growth and labor force growth after the year 2009. Even with these differences, the message is similar: the retirement of the baby-boom generation coupled with expected high rates of growth in per capita health care costs will exhaust the Trust Funds unless further remedial action is taken.

The Trustees' reports feature the 75-year actuarial balance of the Trust Funds as a summary measure of their financial status. For each Trust Fund, the balance is calculated as the change in receipts or program benefits (expressed as a percentage of taxable payroll)

that would be needed to preserve a small positive balance in the Trust Fund at the end of 75 years.

Table 2–3 shows the changes in the 75-year actuarial balances of the Social Security and Medicare Trust Funds from 1997 to 1998. There were only relatively small changes in the projected balances last year for the OASDI Trust Funds, but there was a large improve-

ment in the HI Trust Fund balance. This change incorporates the expected effects of the Balanced Budget Agreement enacted in 1997, which made numerous changes in Medicare. The reforms in the Agreement have extended the projected solvency of the Trust Fund from 2001 until 2008.

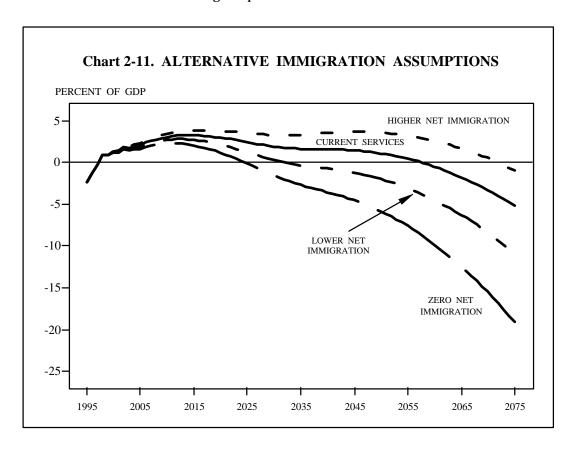


Table 2-3. CHANGE IN 75-YEAR ACTUARIAL BALANCE FOR OASDI AND HI TRUST FUNDS (INTERMEDIATE ASSUMPTIONS)

(As a percent of taxable payroll)

	OASI	DI	OASDI	HI
Actuarial balance in 1997 Trustees' Report Changes in balance due to changes in:.	-1.84	-0.39	-2.23	-4.32
Legislation	0.00	0.00	0.00	2.10
Valuation period	-0.07	-0.01	-0.08	-0.10
Economic and demographic assumptions	0.10	0.01	0.11	-0.08
Technical and other assumptions	0.00	0.01	0.01	0.30
Total changes	0.03	0.01	0.04	2.22
Actuarial balance in 1998 Trustees' Report	-1.81	-0.38	-2.19	-2.10

#### PART III—NATIONAL WEALTH AND WELFARE

Unlike a private corporation, the Federal Government routinely invests in ways that do not add directly to its assets. For example, Federal grants are frequently used to fund capital projects by State or local governments for highways and other purposes. Such investments are valuable to the public, which pays for them with taxes, but they are not owned by the Federal Government and would not show up on a conventional Federal balance sheet.

The Federal Government also invests in education and research and development (R&D). These outlays contribute to future productivity and are analogous to an investment in physical capital. Indeed, economists have computed stocks of human and knowledge capital to reflect the accumulation of such investments. Nonetheless, such hypothetical capital stocks are obviously not owned by the Federal Government, nor would they appear on a balance sheet.

To show the importance of these kinds of issues, Table 2–4 presents a national balance sheet. It includes estimates of national wealth classified into three categories: physical assets, education capital, and R&D capital. The Federal Government has made contributions to each of these categories of capital, and these contributions are shown separately in the table. Data in this table are especially uncertain, because of the strong assumptions needed to prepare the estimates.

The conclusion of the table is that Federal investments are responsible for about 7½ percent of total national wealth. This may seem like a small fraction, but it represents a large volume of capital \$4.8 trillion. The Federal contribution is down from around 9 percent in the mid-1980s, and from around 12 percent in 1960. Much of this reflects the shrinking size of the defense capital stocks, which have gone from 12 percent of GDP to under 9 percent since the end of the Cold War.

#### Physical Assets:

The physical assets in the table include stocks of plant and equipment, office buildings, residential structures, land, and government's physical assets such as military hardware, office buildings, and highways. Automobiles and consumer appliances are also included in this category. The total amount of such capital is vast, around \$27 trillion in 1998; by comparison, GDP was only about \$8.5 trillion.

The Federal Government's contribution to this stock of capital includes its own physical assets plus \$1.0 trillion in accumulated grants to State and local governments for capital projects. The Federal Government has financed about one-fourth of the physical capital held by other levels of government.

# **Education Capital:**

Economists have developed the concept of human capital to reflect the notion that individuals and society invest in people as well as in physical assets. Investment in education is a good example of how human capital is accumulated.

This table includes an estimate of the stock of capital represented by the Nation's investment in education. The estimate is based on the cost of replacing the years of schooling embodied in the U.S. population aged 16 and over; in other words, the idea is to measure how much it would cost to reeducate the U.S. workforce at today's prices (rather than its original cost). This is more meaningful economically than the historical cost, and is comparable to the measures of physical capital presented earlier.

Although this is a relatively crude measure, it does provide a rough order of magnitude of the current value of the investment in education. According to this measure, the stock of education capital amounted to \$31 trillion in 1998, of which about 3 percent was financed by the Federal Government. It exceeds the total value of the Nation's privately owned stock of physical capital. The main investors in education capital have been State and local governments, parents, and students themselves (who forgo earning opportunities in order to acquire education).

Even broader concepts of human capital have been suggested. Not all useful training occurs in a school-room or in formal training programs at work. Much informal learning occurs within families or on the job, but measuring its value is very difficult. However, labor compensation amounts to over two thirds of national income, and thinking of labor income as the product of human capital suggests that the total value of human capital might be two times the estimated value of physical capital. Thus, the estimates offered here are in a sense conservative, because they reflect only the costs of acquiring formal education and training.

#### Research and Development Capital:

Research and Development can also be thought of as an investment, because R&D represents a current expenditure that is made in the expectation of earning a future return. After adjusting for depreciation, the flow of R&D investment can be added up to provide an estimate of the current R&D stock. 10 That stock is estimated to have been about \$2 trillion in 1998. Although this is a large amount of research, it is a relatively small portion of total National wealth. Of this stock, 43 percent was funded by the Federal Government.

# Liabilities:

When considering how much the United States owes as a Nation, the debts that Americans owe to one another cancel out. This means they do not belong in Table 2–4, but it does not mean they are unimportant. (An unwise buildup in debt, most of which was owed to other Americans, was partly responsible for the recession of 1990–1991 and the sluggishness of the early stages of the recovery that followed.) The only debt

 $<sup>^{10}</sup>$  R&D depreciates in the sense that the economic value of applied research and development tends to decline with the passage of time, as still newer ideas move the technological frontier.

Table 2–4. NATIONAL WEALTH

(As of the end of the fiscal year, in trillions of 1998 dollars)

	1960	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998
ASSETS											
Publicly Owned Physical Assets:											
Structures and Equipment											
Publicly Owned Physical Assets:											
Structures and Equipment	2.1	2.4	2.9	3.5	3.7	3.9	4.2	4.6	4.7	4.8	4.8
Federally Owned or Financed		1.3	1.5	1.5	1.5	1.8	1.9	2.0	2.0	2.0	2.0
Federally Owned	1.1	1.1	1.1	1.0	0.9	1.1	1.2	1.1	1.1	1.1	1.0
Grants to State and Local Government		0.2	0.3	0.5	0.6	0.7	0.8	0.9	0.9	1.0	1.0
Funded by State and Local Governments	<b>I</b>	1.1	1.5	2.0	2.1	2.1	2.3	2.6	2.7	2.8	2.8
Other Federal Assets	0.8	0.7	0.7	0.9	1.5	1.5	1.2	0.9	1.0	1.0	0.9
Subtotal	2.9	3.2	3.6	4.4	5.2	5.4	5.5	5.5	5.7	5.7	5.7
Privately Owned Physical Assets:											
Reproducible Assets	6.8	7.8	9.6	12.2	15.7	16.5	18.5	20.0	20.5	21.1	21.9
Residential Structures		3.0	3.6	4.6	6.2	6.5	7.3	8.1	8.3	8.6	8.9
Nonresidential Plant and Equipment	2.7	3.1	3.9	5.1	6.4	7.1	7.7	8.2	8.4	8.7	9.1
Inventories		0.7	0.9	1.1	1.3	1.2	1.3	1.3	1.3	1.4	1.4
Consumer Durables		0.9	1.2	1.4	1.6	1.8	2.2	2.4	2.4	2.5	2.6
Land	2.0	2.4	2.8	3.8	5.6	6.2	6.0	4.7	4.7	5.0	5.3
Subtotal	8.8	10.2	12.4	16.0	21.2	22.7	24.5	24.7	25.3	26.1	27.2
Education Capital:											
Federally Financed	0.1	0.1	0.2	0.3	0.4	0.6	0.7	0.8	0.8	0.9	0.9
Financed from Other Sources	6.0	7.7	10.3	12.7	16.4	19.6	24.9	27.1	28.0	29.1	30.5
Subtotal	6.1	7.8	10.6	13.0	16.8	20.2	25.6	27.9	28.9	29.9	31.4
Research and Development Capital:											
Federally Financed R&D		0.3	0.5	0.5	0.6	0.7	0.8	0.9	0.9	0.9	0.9
R&D Financed from Other Sources	0.1	0.2	0.3	0.4	0.5	0.6	0.8	1.0	1.1	1.2	1.2
Subtotal	0.3	0.5	0.8	0.9	1.0	1.3	1.6	1.9	2.0	2.1	2.1
Total Assets	18.0	21.7	27.3	34.3	44.2	49.6	57.1	60.0	61.8	63.9	66.5
Net Claims of Foreigners on U.S.	0.1	-0.2	-0.2	-0.1	-0.3	0.0	0.7	1.3	1.7	2.0	2.3
Balance	18.2	21.8	27.5	34.4	44.6	49.6	56.4	58.7	60.0	61.9	64.2
ADDENDA:											
Per Capita (thousands of dollars)	100.5	112.4	134.0	159.2	195.2	207.3	225.1	222.4	225.5	230.5	237.0
Ratio to GDP (percent)	709.1	673.0	714.0	786.7	856.0	816.3	817.8	763.6	753.1	746.2	748.
Total Federally Funded Capital (trillions of 1998 dollars)		0.6	0.8	1.2	2.2	3.2	3.9	4.4	4.6	4.7	4.8
Percent of National Wealth		11.5	10.3	9.5	9.1	9.1	8.3	7.9	7.9	7.7	7.4

that appears in Table 2–4 is the debt that Americans owe to foreign investors. America's foreign debt has been increasing rapidly in recent years, because of the continuing deficit in the U.S. current account, but even so the size of this debt remains small compared with the total stock of U.S. assets. It amounted to 3.6 percent of net national wealth in 1998.

Most Federal debt does not appear in Table 2–4 because it is held by Americans; only that portion of the Federal debt held by foreigners is included. However, comparing the Federal Government's net liabilities with total national wealth gives another indication of the relative magnitude of the imbalance in the Government's accounts. Currently, the Federal net asset imbalance, as estimated in Table 2–1, amounts to 5.0 percent of total U.S. wealth as shown in Table 2–4.

# **Trends in National Wealth**

The inflation-adjusted net stock of wealth in the United States at the end of 1998 was about \$64 trillion. Since 1980, it has increased in real terms at an average annual rate of 2.0 percent per year—less than half the 4.6 percent real growth rate it averaged from 1960 to 1980. Public physical capital formation slowed down even more between the two periods. Since 1980, public physical capital has increased at an annual rate of only 0.6 percent, compared with 3.0 percent over the previous 20 years.

The net stock of private nonresidential plant and equipment grew 1.9 percent per year from 1980 to 1998, compared with 4.4 percent in the 1960s and 1970s; and the stock of business inventories increased less than 0.2 percent per year. However, private nonresidential fixed capital has increased more rapidly since

1992—2.8 percent per year—reflecting the recent investment boom.

The accumulation of education capital, as measured here, has also slowed down since 1980, but not as much. It grew at an average rate of 5.2 percent per year in the 1960s and 1970s, about 3/4 percentage point faster than the average rate of growth in private physical capital during the same period. Since 1980, education capital has grown at a 3.5 percent annual rate. This reflects the extra resources devoted to schooling in this period, and the fact that such resources were increasing in economic value. R&D stocks have grown at about 4.1 percent per year since 1980, the fastest growth rate for any major category of investment over this period, but slower than the growth of R&D in the 1960s and 1970s.

#### Other Federal Influences on Economic Growth

Federal policies contributed to the slowdown in capital formation that occurred after 1980. Federal investment decisions, as reflected in Table 2–4, obviously were important, but the Federal Government also contributes to wealth in ways that cannot be easily captured in a formal presentation. Monetary policy affects the rate and direction of capital formation in the short run, and regulatory and tax policies also affect how capital is invested, as do the Federal Government's policies on credit assistance and insurance.

One important channel of influence is the Federal budget surplus/deficit, which determines the size of Federal saving when it is positive or the Federal borrowing requirement when it is negative. Had deficits been smaller in the 1980s, there would have been a much smaller gap between Federal liabilities and assets than is shown in Table 2–1. It is also likely that, had the more than \$3 trillion in added Federal debt since 1980 been avoided, a significant share of these funds would have gone into private investment. National wealth might have been 2 to 4 percent larger in 1998 had fiscal policy avoided the buildup in the debt.

#### **Social Indicators**

There are certain broad responsibilities that are unique to the Federal Government. Especially important are fostering healthy economic conditions, promoting health and social welfare, and protecting the environment. Table 2–5 offers a rough cut of information that can be useful in assessing how well the Federal Government has been doing in promoting these general objectives.

The indicators shown here are a limited subset drawn from the vast array of available data on conditions in the United States. In choosing indicators for this table, priority was given to measures that were consistently available over an extended period. Such indicators make it easier to draw valid comparisons and evaluate trends. In some cases, however, this meant choosing indicators with significant limitations.

The individual measures in this table are influenced to varying degrees by many Government policies and programs, as well as by external factors beyond the Government's control. They do not measure the outcomes of Government policies, because they do not show the direct results of Government activities, but they do provide a quantitative measure of the progress or lack of progress in reaching some of the ultimate values that government policy is intended to promote.

Such a table can serve two functions. First, it highlights areas where the Federal Government might need to modify its current practices or consider new approaches. Where there are clear signs of deteriorating conditions, corrective action might be appropriate. Second, the table provides a context for evaluating other data on Government activities. For example, Government actions that weaken its own financial position may be appropriate when they promote a broader social objective.

An example of this occurs during economic recessions, when reductions in tax collections lead to increased government borrowing that adds to Federal liabilities. This decline in Federal net assets, however, provides an automatic stabilizer for the private sector. State and local governments and private budgets are strengthened by allowing the Federal budget to go into deficit. More stringent Federal budgetary controls could be used to hold down Federal borrowing during such periods, but only at the risk of aggravating the downturn and weakening the other sectors.

The Government cannot avoid making such tradeoffs because of its size and the broad ranging effects of its actions. Monitoring these effects and incorporating them in the Government's policy making is a major challenge.

#### **An Interactive Analytical Framework**

No single framework can encompass all of the factors that affect the financial condition of the Federal Government. Nor can any framework serve as a substitute for actual analysis. Nevertheless, the framework presented here offers a useful way to examine the financial aspects of Federal policies. Increased Federal support for investment, the promotion of national saving through fiscal policy, and other Administration policies to enhance economic growth are expected to promote national wealth and improve the future financial condition of the Federal Government. As that occurs, the efforts will be revealed in these tables.

NA

NA

	Table 2-3. ECC	JINOIVIIC	AND	SOCIAL	. INDICA	AIUKS						
General categories	Specific measures	1960	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998
Economic:												
Living Standards	Real GDP per person (1992 dollars)	12,516	14,828	16,566	17,935	20,268	22,321	24,545	25,690	26,336	27,136	27,915
	average annual percent change	0.3	5.1	-1.1	-1.4	-1.5	2.7	0.2	1.3	2.5	3.0	2.9
	Median Income (1997 dollars):.											
	All Households	NA	NA	33,942	33,699	34,538	35,229	36,770	35,887	36,306	37,005	NA
	Married Couple Families	29,274	34,095	40,867	42,458	45,129	46,390	48,991	49,563	50,848	51,591	NA
	Female Householder, No Spouse Present	14,794	16,576	19,792	19,546	20,297	20,376	20,793	20,738	20,368	21,023	NA
	Income Share of Lower Three Quintiles (percent)	34.8	35.2	35.2	35.2	34.5	32.7	32.0	30.3	30.0	29.8	NA
	Poverty Rate (percent) 1	22.2	17.3	12.6	12.3	13.0	14.0	13.5	13.8	13.7	13.3	NA
Economic Security	Civilian Unemployment (percent)	5.5	4.5	4.9	8.5	7.1	7.2	5.5	5.6	5.4	5.0	4.5
·	CPI-U (percent Change)	1.7	1.6	5.8	9.1	13.5	3.5	5.4	2.8	2.9	2.3	1.6
<b>Employment Prospects</b>	Increase in Total Payroll Employment (millions)	-0.5	2.9	-0.5	0.4	0.2	2.5	0.3	2.2	2.8	3.4	2.9
	Managerial or Professional Jobs (percent of total)	NA	NA	NA	NA	NA	24.1	25.8	28.3	28.8	29.1	29.6
Wealth Creation	Net National Saving Rate (percent of GDP)	10.8	12.6	8.7	6.7	7.5	6.2	4.4	5.3	5.8	6.6	6.6
Innovation	Patents Issued to U.S. Residents (thousands)	42.1	53.9	49.8	40.2	40.5	43.2	52.6	64.2	69.2	69.7	NA
	Multifactor Productivity (average annual percent change)	1.0	3.1	1.0	1.2	0.7	0.6	0.2	0.2	0.6	NA	NA
Social:												
Families	Children Living with Female Householder, No Spouse											
	Present (percent of all children)	9	10	12	16	19	20	22	24	23	23	NA
Safe Communities	Violent Crime Rate (per 100,000 population) 2	160	199	364	482	597	557	732	685	634	611	NA
	Murder Rate (per 100,000 population) <sup>2</sup>	5	5	8	10	10	8	9	8	7	7	NA
	Juvenile Crime (murders and nonnegligent manslaughter											
	per 100,000 persons age 14 to 17)	NA	NA	NA	11	13	10	24	24	20	NA	NA
Health and Illness	Infant Mortality (per 1000 Live Births)	26.0	24.7	20.0	16.1	12.6	10.6	9.2	7.6	7.3	NA	NA
	Low Birthweight [<2,500 gms] Babies (percent)	7.7	8.3	7.9	7.4	6.8	6.8	7.0	7.3	7.4	NA	NA
	Life Expectancy at birth (years)	69.7	70.2	70.8	72.6	73.7	74.7	75.4	75.8	76.1	NA	NA
	Cigarette Smokers (percent population 18 and older)	NA	42.4	39.5	36.4	33.2	30.1	25.5	24.7	NA	NA	NA
	Bed Disability Days (average days per person)	6.0	6.2	6.1	6.6	7.0	6.1	6.2	6.1	NA	NA	NA
Learning	High School Graduates (persent of population 25 and											
	older)	44.6	49.0	55.2	62.5	68.6	73.9	77.6	81.7	81.7	82.1	NA
	College Graduates (percent of population 25 and older)	8.4	9.4	11.0	13.9	17.0	19.4	21.3	23.0	23.6	23.9	NA
	National Assessment of Educational Progress <sup>3</sup> .											
	Mathematics High School Seniors	NA	NA	NA	302	300	301	305	307	307	NA	NA
	Science High School Seniors	NA	NA	305	293	286	288	290	295	296	NA	NA
Participation	Voting for President (percent eligible population)	62.8	NA	NA	NA	52.8	NA	NA	NA	49.0	NA	NA
	Voting for Congress (percent eligible population)	58.5	NA	43.5	NA	47.6	NA	33.1	NA	45.8	NA	33.4
	Individual Charitable Giving per Capita (1997 dollars)	213	255	306	325	354	373	455	456	470	NA	NA
Environment:												
Air Quality	Nitrogen Oxide Emissions (thousand short tons)	14,140	17,424		23,151	24,875	23,488	23,436	23,768	23,391	23,576	NA
	Sulfur Dioxide Emissions (thousand short tons)	22,245	26,380	31,161	28,011	25,905	23,230	23,678	19,189	19,836	NA	NA
	Lead Emissions (thousand short tons)	NA	NA	221	160	74	23	5	4	4	4	NA
Water Quality	Population Served by Secondary Treatment or Better											

Table 2-5. ECONOMIC AND SOCIAL INDICATORS

#### TECHNICAL NOTE: SOURCES OF DATA AND METHOD OF ESTIMATING

# Federally Owned Assets and Liabilities Assets:

Financial Assets: The source of data is the Federal Reserve Board's Flow-of-Funds Accounts. Two adjustments were made to these data. First, U.S. Government holdings of financial assets were consolidated with the holdings of the monetary authority, i.e., the Federal Reserve System. Second, the gold stock was revalued using the market value for gold.

Physical Assets:

Fixed Reproducible Capital: Estimates were developed from the OMB historical data base for physical capital outlays. The data base extends back to 1940 and was supplemented by data from other selected sources for 1915–1939. The source data are in current dollars. To estimate investment flows in constant dol-

lars, it is necessary to deflate the nominal investment series. This was done using price deflators for Federal purchases of durables and structures from the National Income and Product Accounts.

Fixed Nonreproducible Capital: Historical estimates for 1960–1985 were based on estimates in Michael J. Boskin, Marc S. Robinson, and Alan M. Huber, "Government Saving, Capital Formation and Wealth in the United States, 1947–1985," published in *The Measurement of Saving, Investment, and Wealth*, edited by Robert E. Lipsey and Helen Stone Tice (The University of Chicago Press, 1989).

Estimates were updated using changes in the value of private land from the Flow-of-Funds Balance Sheets and in the Producer Price Index for Crude Energy Materials.

<sup>&</sup>lt;sup>2</sup> Not all crimes are reported, and the fraction that go unreported may have varied over time

<sup>&</sup>lt;sup>3</sup> Some data from the national educational assessments have been interpolated.

#### Liabilities:

*Financial Liabilities:* The principal source of data is the Federal Reserve's Flow-of-Funds Accounts.

Insurance Liabilities: Sources of data are the OMB Deposit Insurance Model and the OMB Pension Guarantee Model. Historical data on liabilities for deposit insurance were also drawn from the CBO's study, *The Economic Effects of the Savings and Loan Crisis*, issued January 1992.

Pension Liabilities: For 1979–1997, the estimates are the actuarial accrued liabilities as reported in the annual reports for the Civil Service Retirement System, the Federal Employees Retirement System, and the Military Retirement System (adjusted for inflation). Estimates for the years before 1979 are extrapolations. The estimate for 1998 is a projection.

# **Long-Run Budget Projections**

The long-run budget projections are based on long-run demographic and economic projections. A simplified model of the Federal budget developed at OMB computes the budgetary implications of this forecast.

Demographic and Economic Projections: For the years 1999–2009, the assumptions are identical to those used in the budget. These budget assumptions reflect the President's policy proposals. The long-run projections extend these budget assumptions by holding constant inflation, interest rates, and unemployment at the levels assumed in the final year of the budget. Population growth and labor force growth are extended using the intermediate assumptions from the 1998 Social Security Trustees' report. The projected rate of growth for real GDP is built up from the labor force assumptions and an assumed rate of productivity growth. The assumed rate of productivity growth is held constant at the average rate of growth implied by the budget's economic assumptions.

Budget Projections: For the budget period through 2009, the projections follow the budget. Beyond the budget horizon, receipts are projected using simple rules of thumb linking income taxes, payroll taxes, excise taxes, and other receipts to projected tax bases derived from the economic forecast. Outlays are computed in different ways. Discretionary spending is projected according to current services assumptions in which it grows at the rate of inflation. As an alternative, discretionary spending is also projected to grow at the rate of inflation plus population. Social Security, Medicare, and Federal pensions are projected using the most recent actuarial forecasts available at the time the budget was prepared. These projections are repriced using Administration inflation assumptions. Other entitlement programs are projected based on rules of thumb linking program spending to elements of the economic and demographic forecast such as the poverty rate.

#### **National Balance Sheet Data**

Publicly Owned Physical Assets: Basic sources of data for the federally owned or financed stocks of capital are the investment flows described in Chapter 6. Federal grants for State and local government capital were added, together with adjustments for inflation and depreciation in the same way as described above for direct Federal investment. Data for total State and local government capital come from the revised capital stock data prepared by the Bureau of Economic Analysis.

Privately Owned Physical Assets: Data are from the Flow-of-Funds national balance sheets and from the private net capital stock estimates prepared by the Bureau of Economic Analysis. Values for 1998 were extrapolated using investment data from the National Income and Product Accounts.

Education Capital: The stock of education capital is computed by valuing the cost of replacing the total years of education embodied in the U.S. population 16 years of age and older at the current cost of providing schooling. The estimated cost includes both direct expenditures in the private and public sectors and an estimate of students' forgone earnings, i.e., it reflects the opportunity cost of education.

The historical estimates of education capital presented in this section differ from previously published estimates because of the incorporation of revised estimates of students' forgone earnings. These are now based on the year-round, full-time earnings of 18–24 year olds with selected educational attainment levels. These year-round earnings are reduced by 25 percent because students are usually out of school three months of the year. For high school students, these adjusted earnings are further reduced by the unemployment rate for 16–17 year olds; for college students, by the unemployment rate for 20–24 year olds. Yearly earnings by age and educational attainment are from *Money Income in the United States*, series P60, published by the Bureau of the Census.

For this presentation, Federal investment in education capital is a portion of the Federal outlays included in the conduct of education and training. This portion includes direct Federal outlays and grants for elementary, secondary, and vocational education and for higher education. The data exclude Federal outlays for physical capital at educational institutions and for research and development conducted at colleges and universities because these outlays are classified elsewhere as investment in physical capital and investment in R&D capital. The data also exclude outlays under the GI Bill; outlays for graduate and post-graduate education spending in HHS, Defense and Agriculture; and most outlays for vocational training.

Data on investment in education financed from other sources come from educational institution reports on the sources of their funds, published in U.S. Department of Education, *Digest of Education Statistics*. Nominal expenditures were deflated by the GDP chainweighted price index to convert them to constant dollar values. Education capital is assumed not to depreciate, but to be retired when a person dies. An education capital stock computed using this method with different source data can be found in Walter McMahon, "Relative Returns To Human and Physical Capital in the U.S.

and Efficient Investment Strategies," *Economics of Education Review*, Vol. 10, No. 4, 1991. The method is described in detail in Walter McMahon, *Investment in Higher Education*, Lexington Books, 1974.

Research and Development Capital: The stock of R&D capital financed by the Federal Government was developed from a data base that measures the conduct of R&D. The data exclude Federal outlays for physical capital used in R&D because such outlays are classified elsewhere as investment in federally financed physical capital. Nominal outlays were deflated using the GDP deflator to convert them to constant dollar values.

Federally funded capital stock estimates were prepared using the perpetual inventory method in which annual investment flows are cumulated to arrive at a capital stock. This stock was adjusted for depreciation by assuming an annual rate of depreciation of 10 percent on the outstanding balance for applied research and development. Basic research is assumed not to depreciate. The 1993 Budget contains additional details on the estimates of the total federally financed R&D stock, as well as its national defense and nondefense components (see *Budget for Fiscal Year 1993*, January 1992, Part Three, pages 39–40).

A similar method was used to estimate the stock of R&D capital financed from sources other than the

Federal Government. The component financed by universities, colleges, and other nonprofit organizations is estimated based on data from the National Science Foundation, *Surveys of Science Resources*. The industry-financed R&D stock component is estimated from that source and from the U.S. Department of Labor, *The Impact of Research and Development on Productivity Growth*, Bulletin 2331, September 1989.

Experimental estimates of R&D capital stocks have recently been prepared by BEA. The results are described in "A Satellite Account for Research and Development," *Survey of Current Business*, November 1994. These BEA estimates are lower than those presented here primarily because BEA assumes that the stock of basic research depreciates, while the estimates in Table 2–4 assume that basic research does not depreciate. BEA also assumes a slightly higher rate of depreciation for applied research and development, 11 percent, compared with the 10 percent rate used here.

#### **Social Indicators**

The main sources for the data in this table are the Government statistical agencies. Generally, the data are publicly available in the annual *Economic Report of the President* and the *Statistical Abstract of the United States*.